

—*PRICE LIST*—

OF

Bicycles

AND
BICYCLE
SUPPLIES

1885



AMERICAN

CHALLENGE
SAFETY
IDEAL

BICYCLES



MANUFACTURED

—BY—

GORMULLY
& JEFFERY,

OFFICE AND WORKS:

222 ^{AND} 224 N. Franklin St.

CHICAGO, ILL.

1885

IN submitting our Seventh Annual Price List, we wish to call your attention, among other novelties, to the description of our new Bicycle, the American Challenge, to which we invite the attention, criticism and mature judgment of all riders.

Its place in the market and on the road is that of a standard, reliable, serviceable bicycle, and while its price is less than any other bicycle of equal grade, it has meritorious features superior to any other now manufactured anywhere.

We have also completed improvements in the detail of our well known Ideal which other seasons' experience has shown desirable, and which without adding any weight has increased the durability of some of the parts, and improved the finish; for this purpose we have made large additions to our machinery, and placed in our works an extensive and complete copper plating and nickel plating equipment, that all our goods may be coated with both metals, giving a double security against rust and wear of the surfaces.

While noticing the growing demand for a bicycle which can be used with greater safety over rough roads and among the crowded vehicles of cities, we have perfected our American Safety now introduced; for it we claim some advantages described in the specification over any other safety machine, and, indeed, for the work it is designed for, over any bicycle of ordinary construction.

We guarantee all our productions to be sound and free from imperfection in workmanship or material, and any defective part found will be made good if shown within six months of the time of sale.

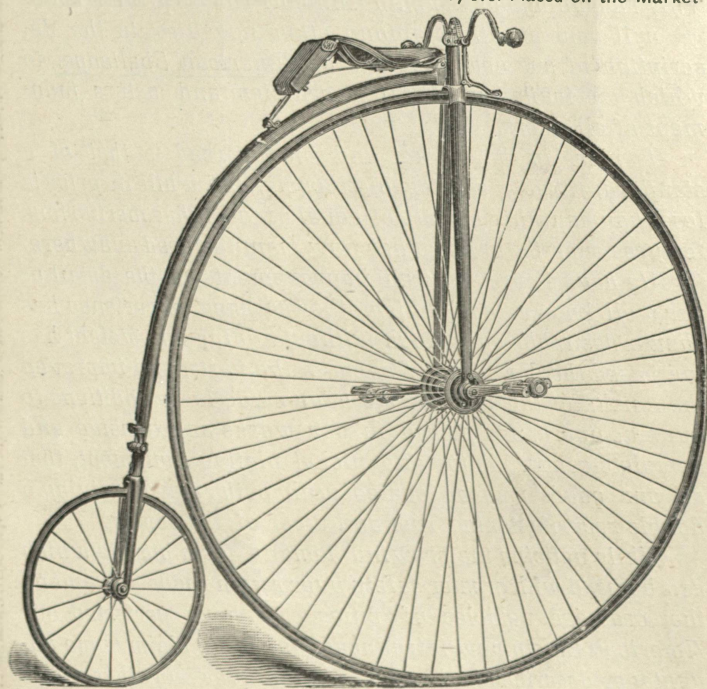
All bicycles are manufactured under a general license from the Pope Manufacturing Co., of Boston, Mass. Special features not found in any other bicycle are introduced under patents which we exclusively control.

R. P. GORMULLY.

T. B. JEFFERY.

THE AMERICAN CHALLENGE.

The Best and Most Durable Roadster for the Money ever Placed on the Market.



Diameter of Front Wheel.	Length of Leg Inside Measure to Sole of Foot.	Price, Standard Finish, Per Specification.	Price, All Parts Nickeled Except Wheels.	Price, Full Nickeled Including Wheels.	Weight.	Weight of Crate for one or two Bicycles
52 inches.	34 inches.	\$74 00	\$83 00	\$90 00	43½	31
54 "	35 "	76 00	85 00	92 00	45	32
56 "	36 "	78 00	87 00	94 00	46½	33
58 "	37 "	80 00	89 00	96 00	48	34
60 "	38 "	82 00	91 00	98 00	49½	35

Ball Bearings to front wheel only,	\$10 00
" " rear wheel only,	5 00
" " pedals,	5 00

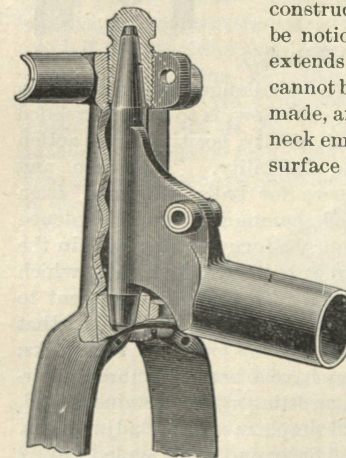
If with cow-horn handle-bar, extra, \$1.00.

If nickeled spokes are desired with the standard finish or half-nickeled bicycles the cost will be additional \$4.00.

The American Challenge will be furnished in sizes below 52-inch at the same price as the 52-inch, and intermediate sizes above 52-inch at same price as the size next above.

DESCRIPTION OF THE AMERICAN CHALLENGE.

The forks, head, neck, bearings, spokes, rims and pedals are made of forged and welded steel, the rear fork being of the modern shell or semi-hollow pattern formed of steel in one piece. The backbone is 1½ inch diameter, of weldless steel tube, properly tapered and brazed to the rear fork and neck; the head is of our well known closed pattern, having the longest and most rigid neck in the shortest space possible to place it, and provided with our patent clamping device for securing the center bolt, without a locknut. This



construction is shown in cut, where it will be noticed that the upper part of the neck extends clear above the head, a feature that cannot be produced in any head as ordinarily made, and the construction is such, that the neck employed has a greater lateral bearing surface to resist the tendency of all necks to

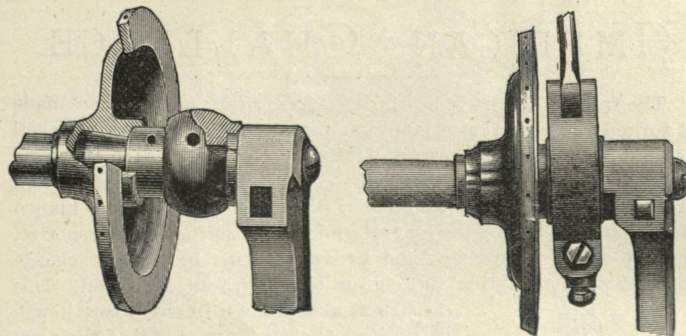
wear oval, and thus be loose at one point and tight in another. The sockets are hardened steel, and the adjustable one requires no extension above to take the jamb nut; but is better secured by clamping its sides, resisting all tendency to loosen or to move sideways in its threaded fitting. The opening for the neck is covered by a neat dust-shield.

The forks are solid, of oval pattern, strong and light.

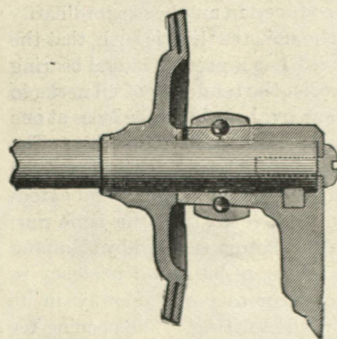
The bearings have received special study and are peculiar to our wheels, and being patented, cannot be used on any other. Their peculiarity consists in being supported or held in spherical cases formed on the fork ends. The actual bearing piece or sleeve is parallel and fitted to work closely and smoothly on the axle, but its outer surface is ball or globe-shaped and fitted in a spherical case previously mentioned, and capable of turning slightly at any desired angle to accommodate itself to the varying strains on the fork; it has no insecure joint or connections and cannot become loose. They have dust-shields as shown in the cut, and are substantially dust-proof, the ring on the hub enclosing the inner abutting face, and the ring outside the bearing and sleeve overlapping the crank.

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PARALLEL BEARINGS.



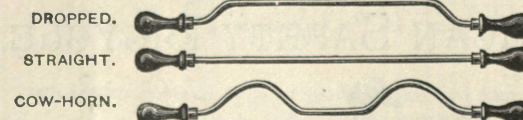
BALL BEARINGS.



The Challenge ball bearing, as per cut below, is to-day unexcelled in simplicity, positive direct action and durability. The case and groove for balls is turned from solid hammered and hardened steel, the former being held in the patent hollowed fork ends, which permit of their self-alignment to adapt themselves to changes that occur from twisting the forks; they have a perfect unbroken circular fitting which retains the oil, and simple means for adjustment.

The wheels have large gun-metal hubs, and thick-ended No. 12 wire spokes of sufficient number to ensure the proper strength. The cranks are slotted for adjustment and of a very strong design well secured and capable of easy detachment as shown in cut of bearings. The axle is of forged and hardened steel, carefully fitted to the bearings. Rims of the best quality U-shaped steel, the strongest material and most durable pattern we know of. Tires of moulded red Para rubber, one inch diameter on the front wheel and $\frac{7}{8}$ inch at the rear wheel; the latter is 17 inch diameter. Handles are ebonite, of large, spherical form, and of our special design. Handle-bars are of one piece throughout their length, and dropped at ends; but are interchangeable with straight or cow-horn handle-bars, which will be furnished if desired, at additional cost; they may be easily removed for storage, or to prevent injury in shipment, or for repairs.

The three patterns of handle bars are shown below.



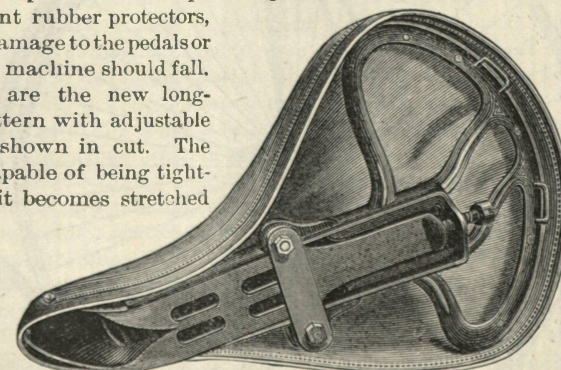
Extra, \$1 00

The dropped handles we recommend most, and always furnished, unless another form is mentioned in the order.

The pedals are of white corrugated rubber, having square holes in their centres, fitted on square rods, which prevent their turning, and consequent slipping of the foot.

The pedal pins have dust-proof caps on their ends, surrounded by our patent rubber protectors, to prevent damage to the pedals or crank if the machine should fall.

Saddles are the new long-distance pattern with adjustable tension, as shown in cut. The leather is capable of being tightened after it becomes stretched by use.



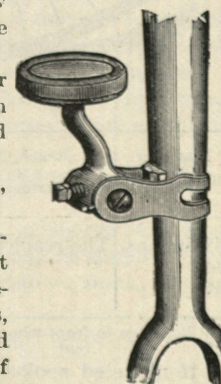
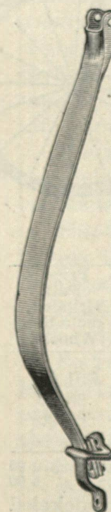
The saddle spring is of the bow form, with our patent adjustable noiseless clip, as per cut on left.

Step is adjustable for height or angle, and rubber covered, which ensures a firm, easy support and removes the liability of slipping.

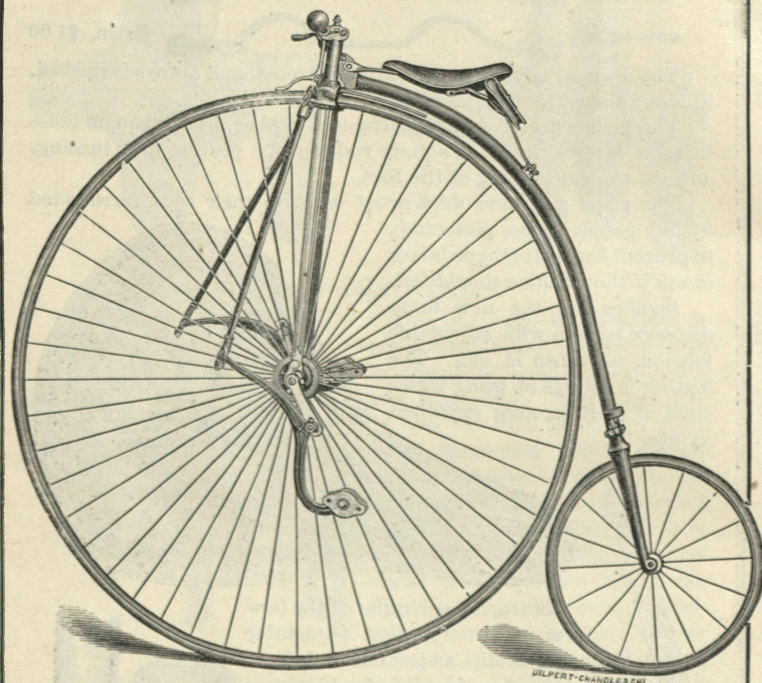
Rear wheel bearing is of steel, and with dust-proof cones.

All parts of the standard finished bicycles are finished in jet black, except the head, saddle-spring, handle-bars, brake, cranks, pedals and step, which are polished and nickel plated, with a coat of copper underneath the nickel.

All bicycles are provided with tool bag, wrench and oil can.



— THE —
AMERICAN SAFETY BICYCLE.



PRICE LIST.

Diameter of Front Wheel.	Reach, Measured by the American Challenge.	Price of Standard Finish.	Price, All Parts Nickered except Wheels.	Price, Full Nickered, including Wheels.
42 inches.	The reach of .52 or .54	\$76 00	\$85 00	\$91 00
44 "	" " .54 or .56	78 00	87 00	93 00
46 "	" " .56 or .58	80 00	89 00	95 00

[illegible]

If nicked spokes are desired in the standard or half-nicked bicycles, the cost is \$3.50 additional.

If with cow-horn or dropped handle-bar, extra, \$1.00.

THE AMERICAN SAFETY.

While the modern type of bicycle, like the American Challenge and Ideal, never will be excelled or superseded by any similar vehicle for use on ordinary smooth roads or racing tracks, there are conditions in which a modification of it is better adapted for others.

All bicycle riders know how slow and disagreeable is the work of getting over rough roads, cobble stone streets, and among the crowded vehicles in cities; and those who use the wheel for business or recreation continuously over every sort of road, know best the advantages and speak most in praise of the safety wheels, with which the journey may be rapidly pursued without constant dismounts, and with unvarying speed, necessitating less attention and enabling the rider to apply his power to better advantage.

The safety principle consists in placing the weight of the rider much nearer the ground than in the ordinary machine, and further back; to do this the front wheels are made smaller and the spring longer. The upright position of the rider and the direct downward thrust of the feet are secured by placing the ordinary bicycle pedals on levers that are hung below, and extend to the rear of the crank a suitable distance to effect this result. By connecting the front end of the levers to a swinging tubular rod, the pedals move in an almost perfect oval curve and avoid the jerky movement caused by the rapidly descending and slowly ascending pedal movement of similar safety machines that do not have the swinging rod.

The joints on the levers are constructed on the ball and socket principle, so that an accident that bends either the levers or the cranks will not cause the machine to turn hard in consequence.

The frames and wheels are very strongly made, the front wheels having 1-inch tires and rear wheels $\frac{3}{8}$ -inch tires, which are 20-inch diameter.

Hubs are of phosphor-bronze, spokes of .106-inch diameter and butt-ended at the rims and hubs.

Forks and backbones of same material as in our Challenge; handle-bars are straight and detachable, but may be supplied of the extra cow-horn or dropped pattern, as preferred; we think, however, the straight bar for this mount is the best.

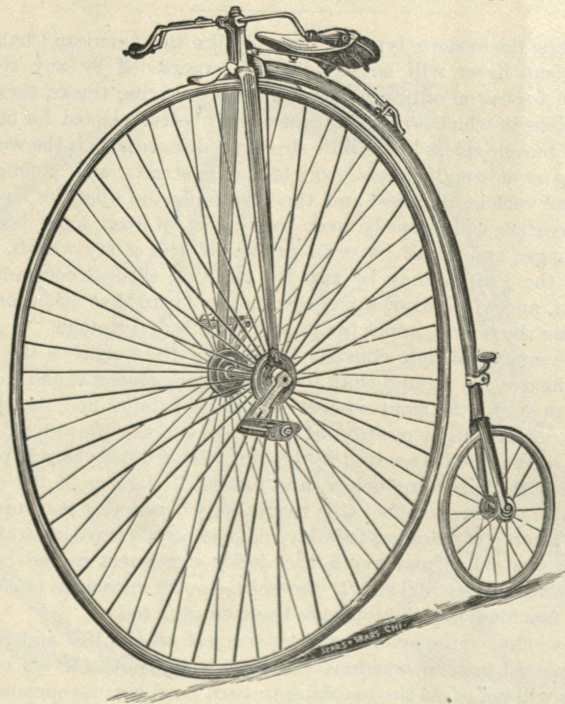
Step is of our special pattern, adjustable and rubber capped.

Finish same as that of the Challenge.

Every bicycle furnished with tool bag, oil can, and nickel-plated wrench.

THE IDEAL BICYCLE.

WITH LATEST IMPROVEMENTS.



PRICE LIST.

Diameter of Front Wheel.	Length of Leg Inside Measure to Sole of Foot.	Price Standard Finish. Per Specification.	Price all parts Nickelc'd except Wheels.	Price Full Nickelc'd including Wheels.	Weight.	Weight of Crate for one or two Bicycles.
38 inches.	27 inches.	\$35 00	\$41 00	\$48 00	31 lbs.	25 lbs.
42 "	29 "	42 00	48 00	55 00	34 "	26 "
44 "	30 "	54 00	60 00	67 00	35 1/2 "	27 "
46 "	31 "	60 00	68 00	75 00	37 "	28 "
48 "	32 "	66 00	74 00	81 00	42 "	29 "
50 "	33 "	72 00	80 00	87 00	43 1/2 "	30 "

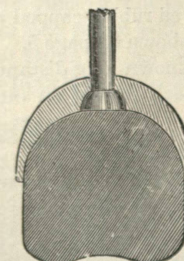
Ball Bearings to front wheel,	-	-	-	-	-	-	-	\$10 00
" " rear "	-	-	-	-	-	-	-	5 00

If nicked spokes are required instead of painted ones, in the standard or half-nicked bicycles, add to the price \$3.50.

THE IDEAL BICYCLE

Is made in sizes from 38 to 50 inches diameter. All the wearing parts are of steel and hardened. It is built interchangeable, with some parts of greater strength than those of previous seasons, this being accomplished by distributing the material to better advantage, and without adding any to the weight. It has been on the market for the past three seasons, and, through the care bestowed on its manufacture, its success has been so great, and its merits so clear, that since its introduction the importation of bicycles smaller than 50-inch has practically ceased.

The wheels of the 48 and 50-inch bicycles have $\frac{3}{8}$ -inch fine Para rubber tires; on rear wheels $\frac{3}{4}$ -inch. Those below 48-inch have $\frac{3}{4}$ -inch tires to front wheel, and $\frac{5}{8}$ -inch to the rear. The rubber is formed in costly special moulds to attain objects of peculiar value, as shown in cut and description.



The surface of the tire that comes in contact with the road is slightly broadened and hollowed; in other respects it does not differ from the ordinary fine quality rubber tire, firmly cemented into the rims. In operation, the rubber flattens out with the weight of the rider, and forms a broader base, preventing it sinking into soft roads, and causing it to slip less in turning short curves and crossings, or getting out of car or wagon tracks. For those who still prefer the round tire we will supply it at the same cost.

The rims are of U-shaped steel of well tested quality and pattern, with which we have had complete success, never having had one buckled wheel or broken rim of our manufacture to repair.

The spokes are made of best grade No. 12 steel wire, which we test to bear a weight of 800 lbs, each screwed directly into the hubs. The spokes of the large sizes being thick-ended where they connect to the hub and rim, so as to be of uniform strength throughout their length.

The hubs have a longer and more secure fitting than those of the early part of last season, and made of phosphor-bronze to secure greater toughness.

The axles are of fine forged steel, quite as small as the average axle, but made much stronger by dispensing with the shoulder that is invariably formed on the shaft at the base of the crank. Our success in this has been so marked that we have never had a broken axle to replace.

The same may be said of our cranks, the material being distributed in such a way as to secure the greatest strength without superfluous metal.

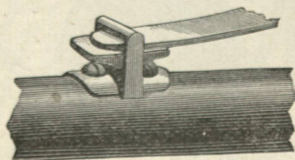
The forks and backbone are of a tough quality iron. The latter is of welded and tapered tubing, firmly joined to the neck and rear fork.

The heads are of the closed pattern, with our patent long neck, with the exception of the smaller sizes, which are of the Standard Columbia pattern.

The step is our improved rubber-capped pattern and those above 42-inch are adjustable, as shown on page 5.

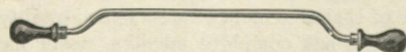
The saddle is the well-known long distance pattern.

Spring of tempered steel, resting on our improved clip at the rear end.



The handles are rubber, of good form to furnish a comfortable hold, as shown in cut, page 15.

The handle-bars and brake-levers are dropped at the ends. This is a stronger form than the cow-horn shape, and more easily straightened when bent. It is more easily reached while mounting than a straight handle-bar, and gives a better position to the hands and arms when riding.

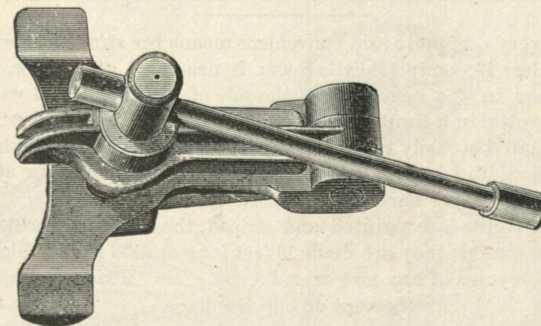


They are in one piece throughout their length, and have no weak point whatever.

The standard finished Ideals are maroon color, with gold leaf striping. The prominent parts, including the head, are nickel-plated.

All bicycles are furnished with tool-bag, oil can and nickel-plated wrench.

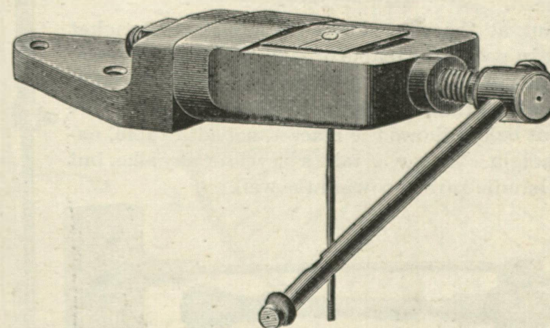
RIM CLAMP.



A tool devised and found extremely useful by repairers for taking kinks or short bends out of rims; it will pinch the rim at any part, and by being closed with the screw will correct any undesirable bends, thus taking undue strain off particular spokes, making the wheel stronger and truer than it could be made without it.

Price, - - - - - \$6.00

SPOKE-HEADER.



Spoke vise and die used in heading spokes, useful for all kinds and arranged to turn angularly to accommodate wheels like the Std. Columbia and some English machines, in which the spokes are headed after they are inserted in the wheel. Each vise is provided with dies that will hold four sizes of spokes.

Price, - - - - - \$10.00

THE IDEAL BICYCLE RACK

Forms a very complete and convenient means for storing or exhibiting bicycles; it occupies little room, is neat and attractive, can be used either in the center or at the side of the room, and will hold more bicycles in a limited space than anything yet devised. The bicycles can be easily removed or replaced, they can not be injured or scratched, and can be placed diagonally in the space or at right angles to the center bar which supports them.

The uprights are painted and striped, the rods and screw-heads are nickel plated; they are made 10 feet long and 56 inches high, and hold ten bicycles of any size or make.

Price, each, \$17.50

(See cut on opposite page.)

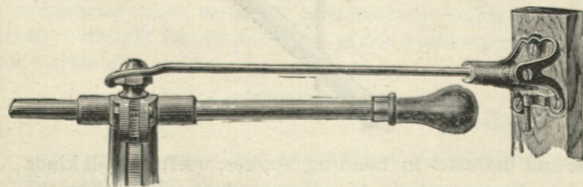
THE CHALLENGE WALL BRACKET.

This device will hold one bicycle only, and must be fastened to a wall or post; it holds a bicycle of any size very securely at any angle to the support, and drops out of the way when not in use, as shown in the cut at side.

The loop at the end of the rod will fit over the centre screw, and should be adjusted by means of the set screw under its pivot to press downward strongly on the bicycle head.

The cut at the side shows the adjustable bracket when not in use, but capable of taking any size bicycle, either with the wheel turned to the wall, or the handle-bar in that direction.

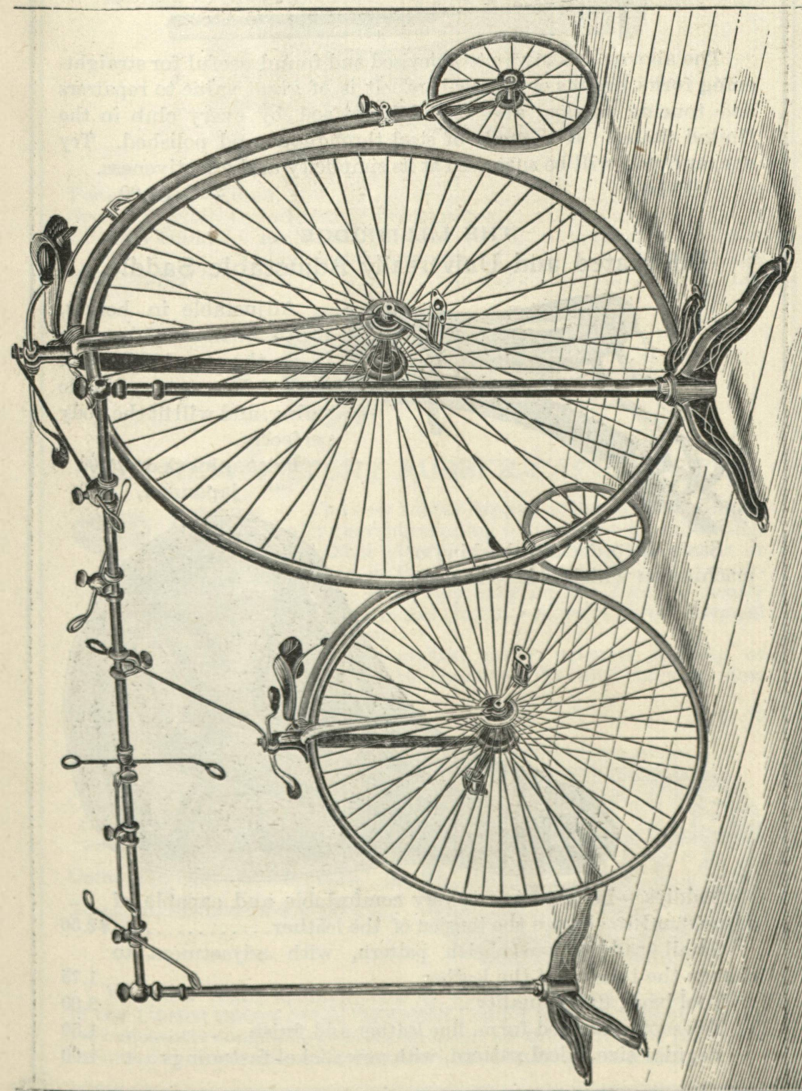
The cut below shows the bracket, not adjustable, except for height. This will take a bicycle of any size, but with the handle turned toward the wall.



Price of adjustable bracket, - - - per doz., \$15.00
 " not adjustable, - - - " 12.00

Try these, and you will use no more stands. They are cheaper, hold more securely, and take less time to replace the wheels.

THE IDEAL BICYCLE RACK.



HANDY STRAIGHTENER.

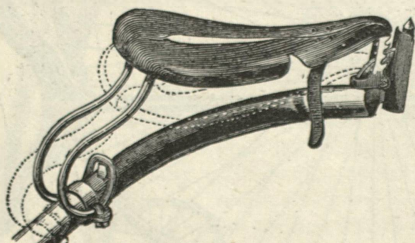


The above cut shows a tool devised and found useful for straightening forks, cranks or handle-bars. It is of great value to repairers and touring parties, and should be owned by every club in the United States. It is made of steel throughout and polished. Try one, and you will be surprised at its simplicity and effectiveness.

Price, - - - - - \$2.00

THE LILLIBRIDGE

Bifurcated and Universally Adjustable Saddle.

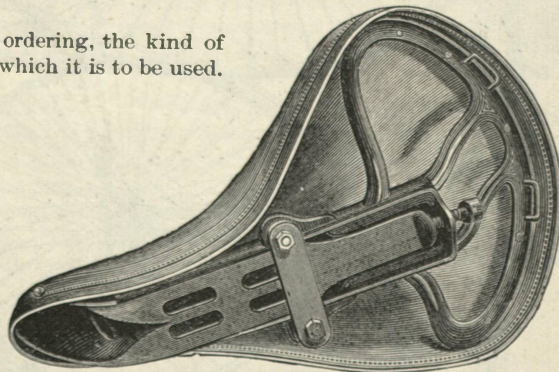


Adjustable in height, width, tension and distance from the head. Is well made. Has a very elastic spring, and will fit the body perfectly.

Price, nicked, \$5.00

" japanned, 4.00

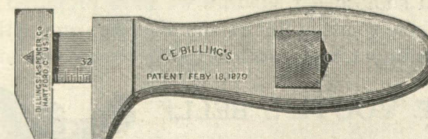
State, in ordering, the kind of machine on which it is to be used.



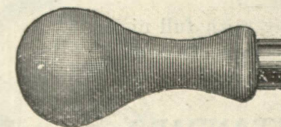
- Saddles.—Long distance, very comfortable and capable of adjustment to change the tension of the leather.....\$2.50
- Small saddle, suspension pattern, with adjustment to change the tension of the leather 1.75
- Tool bags, finest quality..... 2.00
- Telescopic pressed form, fine leather and finish..... 1.50
- Regular size, Ideal pattern, with new nickel fastenings 1.00

POCKET WRENCH.

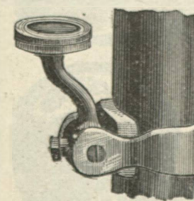
Billings & Spencer pattern, the best bicycle wrench made, \$.75



- Pocket Oiler—Ideal.....\$.20
- Spoke Wrench for adjusting direct spokes..... .75
- Ebonite Handles, large size, per pair..... 2.00
- " " Ideal pattern and size..... 1.50
- Soft Rubber " 1.00



THE NEW PATENT RUBBER-CAPPED STEP.



The new rubber-capped adjustable step effectually prevents slipping of the foot in mounting. Its rubber edges prevent injury to the person or clothing in the event of a hasty dismount backwards. It is very easy on the foot, is neatly made and nickel plated. Always gives universal satisfaction.

Can be applied easily without drilling or weakening the backbone to any bicycle now in use.

Price.....\$1.50

Cement—Loudon's Best, in cakes 11×6×2 in. thick, weighing about 5 lbs, per lb. \$1.50

Cement in cakes of 2 oz. each .25

The genuine moulded as per cut.



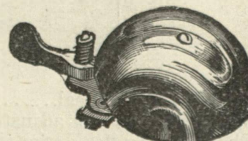
We have made arrangements by which we have the sole control in the United States of the celebrated Loudon's Tire Cement, and as we constantly keep a large stock on hand, all orders will be promptly executed. Favorable quotations furnished to large consumers.

CYCLISTS' BELLS.

In bells and some other sundries we have prepared special machinery to produce goods of fine quality and large quantities, enabling us to furnish satisfactory quotations to the largest dealers.

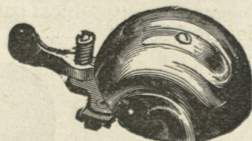
No. 1. THE YOUTH'S BELL.

2¼ ins. in diameter with nickel gong and bronze fastenings. Price, 50 cents.



No. 2. THE FAVORITE.

2½ ins. in diameter with full nickel gong and fastenings. Price, 75 cents.



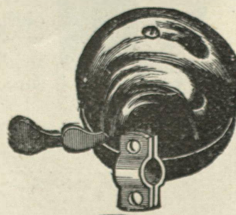
No. 3. THE STANDARD.

3½ ins. in diameter with nickel gong and fastenings. This is absolutely the loudest Bicycle Bell in use. Price, \$1.00.



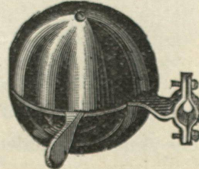
No. 4. THE CHIMING.

2½ ins. in diameter with nickel double bells and fastenings, sounds two distinct musical notes; does not rattle. Price, \$1.50.



No. 5. THE SUPERB.

The superb has a continuous chiming sound, and of superior finish. Full nickel. Price, \$2.00.



The above may be fastened to the brake spoon, or handle bar, as desired.

The gongs have square holes in their centers fitting perfectly to square ends of the frames, and secured by well proportioned screws. They cannot possibly be loosened without the aid of a screw driver.

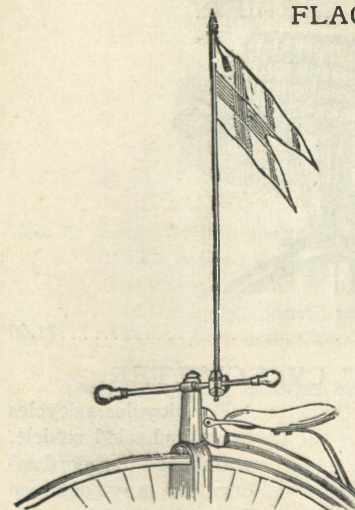
FLAGS AND COLOR STAFF.

Used by the principal bicycle clubs of the United States.

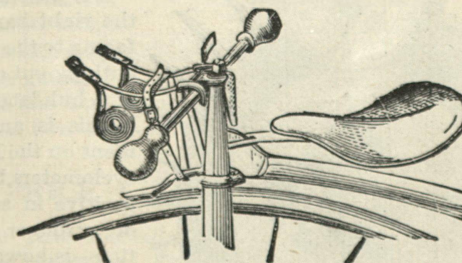
For a "meet," parade or drill it makes a very pleasing effect in the line.

Flag staff with clamp to fit any handle bar, nickel plated, - - \$4.00.

Price of silk flag with appropriate lettering on both sides, and any color of silk, with gold or silk fringe, \$8.00.



Lamson's Luggage Carrier, or Bicycle Shawl-Strap.

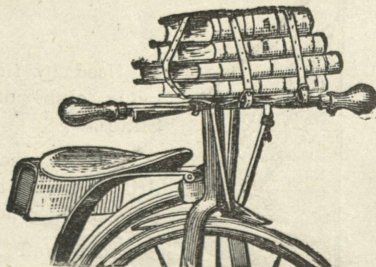


Supplies a want long felt for some cheap, simple and effective device for attaching a coat or any other bundle to the head and handle-bar of a bicycle, sustaining it in a position over and in front of the bicycle head, and out of the way of the legs, in riding, mounting or dismounting.

It weighs but a mere trifle, and can be easily carried in the pocket when not in use. It can be attached to the bicycle in a moment, and removed as quickly, and when detached serves as a *Shawl-Strap* for carrying the bundle when off the machine, the metallic part forming a handle.

Price.....\$.75

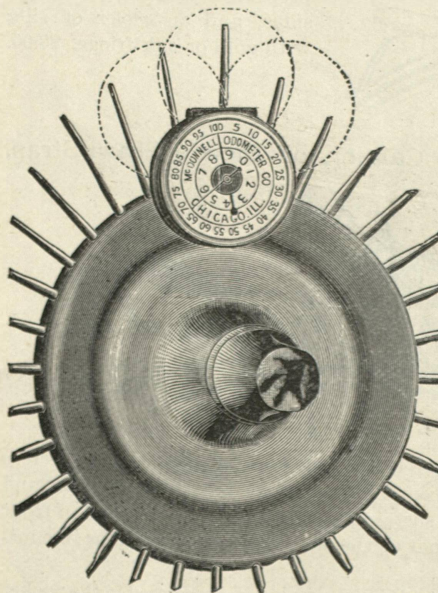
THE BOOK CARRIER.



With Extra Strap.

Price.....\$1.00

THE "SPALDING" CYCLOMETER.



For bicycles, tricycles or any wheeled vehicle, warranted to record accurately any distance from the fraction of a mile to 1,000 miles.

It is attached to one of the right hand spokes, facing to the left, and is entirely out of the way of a hub lamp.

This is an improvement on the McDonnell cyclometers, being more positive in action, and of stronger construction—is, however, of the same size, $1\frac{3}{4}$ in. diameter, and $\frac{3}{8}$ in. thick.

The cyclometer hangs from a small axle attached to one of the spokes, but does not

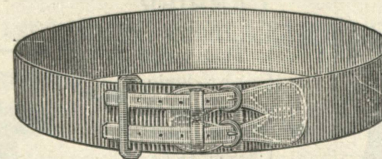
revolve, the axle revolving and imparting motion to the dials:

Thoroughly warranted to keep an accurate measurement of the distance traveled.

Price, Nickel Plated.....\$ 5.00

Gold Plated, with name engraved, for prizes..... 10.00

BICYCLISTS' BELTS.



No. 1. Large double leather straps and loop as per cut.

This is the most suitable belt for Cyclists' use as the straps and loop yield to the movement of the body. Made with fine worsted webbing, extra fine trimming, colors as below. Per dozen.....

\$5.25

Worsted webbing belts are made in the following colors:

Solid color, red.	Solid color, navy blue.
Solid color, black.	Blue center, two white stripes.
Solid color, white.	Red center, two white stripes.
Solid color, brown.	Solid color, Blue.
Cotton webbing belts are made in the following colors:	
Solid color, red.	Blue, white and blue.
Solid color, blue.	Red, white and red.
Red and white stripes.	Black, orange and black.
Blue and white stripes.	Red, blue and red.
Solid color, garnet.	White, blue and white.
Red, white and blue stripes.	Blue, red and blue.
Blue center, two white stripes.	White center, two blue stripes.

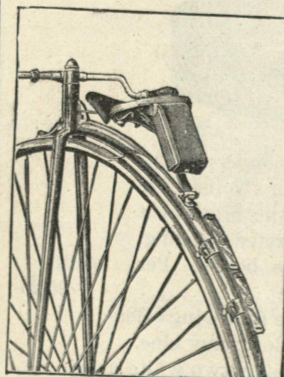
PRICE LIST OF RUBBER TIRES.

Rubber Tires specially moulded for the "American Challenge" and "Ideal" Bicycles. Fine quality red Para gum.

16 x $\frac{5}{8}$	\$1.50	46 x $\frac{3}{4}$	\$5.75
16 x $\frac{3}{4}$	1.75	46 x 1.....	8.00
17 x $\frac{7}{8}$	2.00	48 x $\frac{7}{8}$	7.00
20 x $\frac{7}{8}$	2.50	50 x $\frac{7}{8}$	7.50
38 x $\frac{3}{4}$	4.20	52 x 1.....	8.50
42 x $\frac{3}{4}$	4.75	54 x 1.....	9.00
42 x 1.....	7.00	56 x 1.....	9.50
44 x 1.....	7.50	58 x 1.....	10.00
44 x $\frac{3}{4}$	5.25	60 x 1.....	10.50

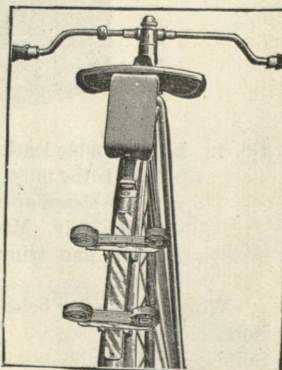
The above prices subject to change without notice.

THE ZACHARIAS & SMITH LUGGAGE CARRIER.



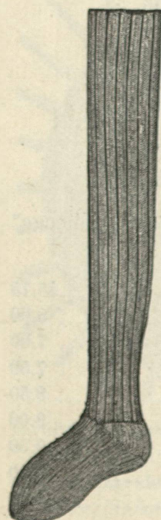
CLOSED.

This very neat device is attachable to the back-bone; takes very little room, and will hold securely a very large bundle. The metal portion is nickel plated. Price, \$2.00.



OPEN.

Calliope or Duplex Whistles, with chain attachment. The generally accepted signal for all cyclists. Nickel plated, \$9.00 per dozen.



BICYCLE HOSE.

We have made arrangements with a prominent woolen manufacturer to supply a line of hose with reinforced heels, made expressly for bicyclists. We furnish goods and colors as follows:

Worsted, ribbed, in grey, navy blue and black	\$18 00 per doz.
Worsted, plain, in grey, navy blue and black,	18 00 "
Wool, ribbed, in grey, navy blue and black,	12 00 "
Wool, plain, in grey, navy blue and black,	12 00 "

Putz Pomade. The best article in use for polishing nickel plate.

Price, in tin boxes.....per doz., \$2.00.

PRICE LIST OF PARTS

—OF—

THE AMERICAN CHALLENGE BICYCLE.

No.		Plain.	Nickel.
62.	Steering Head and Fork (stand. finish)	\$12.00	\$15.00
63.	Center Screw		.40
64a.	Handle Bar, toughest quality steel, straight or dropped.....		1.25
64b.	Same, cow-horned		1.75
65.	Handles, expressly made for the "American Challenge," of an improved shape, and ebonite.		2.00
66.	Handle Bar Clamp.....		.15
67.	Brake Lever, straight or dropped.....		.60
	" " Cow-horn pattern.....		1.10
68.	" " Screw.....		.05
69.	" " Lug, with bar clamp		.25
70.	" Spoon		.80
71.	" " Screw.....		.05
72.	" " Joint.....		.15
73.	" " Spring.....		.10
74.	Bearing Cap.....		.30
75.	" " Screw.....		.10
76.	" Sleeve for parallel bearings, dust-proof.	.50	....
77.	" " " ball bearings.....	1.50	....
78.	" Ring for ball bearings, placed round the axle.....	.50	....
79.	Bearing Clamping Nut or Screw (under bearing sleeve).....		.05
80.	Bearing Oil Cup.....		.15
81.	Steel Ball for bearings.....		.10
82.	Front Wheel, complete, with burnished gun-metal Hub, and 1-inch fine quality rubber tires (any size).....	28.00	34.50
83.	Front Wheel Felloe, U-shaped, drilled for Spokes " " " not drilled	6.00 5.00	8.00 7.00
84.	" " Gun-Metal Hub, drilled for Spokes.	10.00	11.00
85.	" " Spokes, butt-ended	.05	.10
86.	Rear Wheel, complete, 3/4-inch fine Para rubber tire.....	10.00	13.00
87.	Rear Wheel Felloe, U-shaped, drilled for Spokes. " " " not drilled	2.50 1.75	3.50 2.75
88.	" " Hub, gun-metal, drilled for Spokes..	2.75	3.50
89.	" " Axle.....	.30	....
90.	" " Cone, threaded or unthreaded.....	.30	....
91.	" " " Nuts	.10	....
92.	" " Fork, shell pattern	2.75	3.50
93.	" " Spoke, butt-ended	.05	.10
94.	" " Oil Cup		.15
95.	Backbone, complete, including Nos. 92, 96 and 97.	15.00	20.00

No.	Plain.	Nickeled.
96. Backbone Weldless 1½-inch tube, drawn and bent only.	\$8.00	\$13.00
97. Backbone Neck and Spindle	2.00	....
98. " " Step, complete	1.50	....
99. " " Band (encircling the backbone)..	.50	....
100. " " Stem	.50	....
101. " " Rubber Cap	.15	....
102. " " " " Plate and Screw....	.05	....
103. " " Clamp	.10	....
104. " " Screw	.10	....
105. Saddle, long distance, capable of adjusting the tension of the leather.....	2.50	....
106. Saddle Spring.....	2.00	....
107. " " Clip, adjustable.....	.35	....
108. " " " (frame).....	.20	....
109. " " " Slides	.05	....
110. " " " " Screw.....	.05	....
111. " " Bolt.....	.15	....
112. " Bag, Telescope.....	1.50	....
113. " " Ordinary	1.00	....
114. Crank for parallel bearings.....	1.50	....
115. " " ball bearings.....	2.00	....
116. " Key	.15	....
117. " " Nut.....	.05	....
118. Axle Screw (tightening crank in the bearing and used as means of adjusting ball bearings).....	.10	....
119. Pedal, complete, with square hole, corrugated rubber dust cap and rubber protector.....	4.50	....
120. Pedal, complete, with ball bearings.....	9.00	....
121. " Rubber, white, non-slipping.....	.25	....
122. " Shaft or Pin	.50	....
123. " " Nut	.10	....
124. " Dust Cap.....	.30	....
125. " " " Rubber Protector	.15	....

PRICE LIST OF PARTS

—OF—

THE AMERICAN SAFETY BICYCLE.

No.	Plain.	Nickel.
126. Rear Wheel, complete, 20-inch diameter, enameled, and with ⅜ fine quality rubber tire...\$11.00	\$11.00	\$14.00
127. Rear Wheel Felloe, U-shaped, drilled for Spokes. 3.00	3.00	4.00
128. " " " " not drilled	2.25	3.25

No.	Plain.	Nickeled.
129. Rear Wheel Fork, for 20-inch wheel, shell pattern	\$2.75	\$3.50
130. Connecting Rod, complete	2.50	3.25
131. " " Ends.....	.75	1.00
132. Pedal Lever.....	2.00	3.00
133. " Pin.....	.50	....
134. Crank.....	....	1.50
135. " Pin	.30	.50
136. Safety Pedals, complete, with white non-slipping rubber.....	3.00	....

All other parts same price as on those of the "American Challenge."

PRICE LIST OF PARTS

—OF—

THE IDEAL BICYCLE.

No.	Plain.	Nickeled.
1. Steering Head and Fork (standard finish).....	\$ 8.00	\$12.00
2. Center Screw. ....	....	.25
3. Handle Bar, bright steel.....	1.00	1.25
4. Handles, Rubber, expressly made for the "Ideal" of an improved shape. See cut.	1.00	....
5. Brake Lever.....	....	.40
6. " Spoon .....	....	.50
7. " " Screw.....	....	.05
8. " Lug.....	....	.20
9. " Spoon Pin .....	....	.10
10. " " Spring.....	....	.10
11. Bearing Cap.....	.25	....
12. " Sleeves	.35	....
13. Front Wheel, complete, with burnished gun-metal hub, and fine quality red rubber tire, without cranks. Size, 38 and 42 inches.....	18.00	24.00
14. Same. " 44 " 46 "	22.00	28.00
15. Same. " 48 " 50 "	24.00	30.00
16. Front Wheel Felloe, U-shaped, drilled for Spokes. Size, 38 and 42 inches.....	4.00	7.00
17. Same. " 44 " 46 "	5.00	8.00
18. Same. " 48 " 50 "	6.00	10.00
19. Front Wheel Felloe, U-Shaped, not drilled. Size, 38 and 42 inches.....	3.25	6.25
20. Same. 44 " 46 "	4.25	7.25
21. Same. 48 " 50 "	5.25	9.25
22. Front Wheel Hub, drilled for Spokes.....	10.00	11.00
23. " " Spoke.....	.05	.10

No.		Plain. Nickered.
24.	Backbone, diameter $1\frac{1}{4}$, complete, with neck and backbone nicely varnished and gold striped. Size, 38 and 42 inches.....	\$ 7.40 \$13.00
25.	Same. 44 " 46 "	8.40 14.00
26.	Same. 48 " 50 "	10.40 16.00
27.	Backbone Tube only, drawn and bent, Size, 38 and 42 inches.....	4.00
28.	Same. Size, 44 and 46 inches.....	6.00
29.	Same. " 48 " 50 "	8.00
30.	Rear Fork, nicely varnished and striped.....	1.54 2.50
31.	Saddle, large size, long distance.....	2.50
32.	" small size, neat suspension.....	1.75
33.	" Clamp Bar.....	.05
34.	" Strap Nut.....	.02
35.	" Spring.....	1.50
36.	" " Clasp.....	.25
37.	" " " Slide.....	.10
38.	" Bag.....	1.00
39.	Crank for parallel bearing.....	1.00
40.	" for ball bearing.....	1.50
41.	" Key.....	.15
42.	" Nut.....	.05
43.	Ball Case.....	1.50
44.	Balls, each.....	.10
45.	Pedals, complete, per pair.....	3.00
46.	Pedal Rubber, white, non-slipping, each.....	.20
47.	" Shaft.....	.40
48.	" " Nut.....	.05
49.	" " Washer.....	.05
50.	Rear Wheel, complete, nicely varnished and gold striped, with fine quality rubber tire.....	7.50 9.00
51.	Rear Wheel Felloe, U-shaped, drilled for Spokes.....	2.00 3.50
52.	" " Hub, drilled for Spokes.....	2.50 3.00
53.	" " Spokes.....	.03 .05
54.	" " Oil Cover and Screw.....	.10
55.	" " Shaft.....	.30
56.	" " " Nut.....	.05
57.	" " Wrench, nickel-plated, made especially for the "Ideal".....	.35
58.	Oil Can.....	.20 .30
59.	" Cup.....	.15
60.	Step, adjustable, with rubber cap.....	1.50
61.	Rubber Cap only.....	.15

INSTRUCTIONS.

All bicycles are shipped with the backbones detached from the forks to fit in square crates, thus occupying little room, ensuring strong packages with minimum weight of lumber, and reducing express or freight charges. They are kept in stock crated with two of one size in each crate, and the material of a double crate *weighs very little more than that for one*. Therefore dealers are advised, whenever convenient, to order goods in pairs.

Having received the bicycle and removed it carefully from the crate and wrapping, *remove* the center *screw*, and the *bolt* that passes through the two ears at the back of the same.

The recessed part of the neck must be inserted through the slot found between the two ears, and moved downward into its fitting. Then replace the center screw, and, when it allows the backbone to turn easily without shaking, secure it by the bolt passing through the ears.

See that screws clamping the handle-bar are properly tightened.

Place the pedals in their right position. See that the saddle is well back from the neck and properly secured; oil all bearings freely for the first day or two.

LEARNING TO RIDE.

The easiest and quickest way is to attend a riding school, which is now to be found in most of the larger cities of the United States. In this you will be rapidly taught and avoid injury to your bicycle, for the first day's use of a bicycle in learning is often more injurious to the machine than a year's constant use by a skillful rider. Therefore, don't lend it for another to practice on.

If a riding school is not near, the following instructions will be found very timely:

For taking the first lesson select, if possible, a gentle decline with a broad, even surface, take your position astride the rear wheel, leaning forward and grasping the handles with each hand; place the toe of the left foot on the step. In doing so bend the knee as much as possible, and lower the shoulders, which will enable you to reach the handles better and also to spring or strike out with the right foot. Give one firm push with this foot and raise the body, being sure the toe is secure on the step and not liable to slip; for this reason you

should insist upon using a rubber step. Lean forward to bear as much as possible on the front wheel, guiding it with the hands, turning it gently toward the side it may lean, which will cause it to get upright again without any other effort on your part until it stops, when the operation should be repeated continuously until the learner feels that he can easily remain on the step as long as the wheel will keep up its momentum. Half an hour will generally be sufficient for this exercise.

The next exercise is to raise the right leg as high as possible, or till it will rest on the saddle while the left toe continues secure on the step. Vary the exercise by sometimes raising the thigh to the saddle and sometimes propelling the wheel by the right foot on the crank. Practice this till it becomes perfectly easy; another half-hour will probably be sufficient. Do not work yourself tired or nervous.

Having learned to ride on the step and to guide and propel the bicycle in any desired direction, select a time when the wheel has a good start, by a well directed leap from the right toe, with the right thigh well raised, slide gently into the saddle. Do not jump in, but reach just as far as possible with the right leg, aided, of course, by standing on the tip of the left toe; when the right leg has thus slipped in the left follows naturally.

Care must be observed to lean back at the time of sliding into the saddle, for if the body is leaned forward, or if the rider jumps into the saddle before he is very proficient, there is danger of a fall over the front. If the saddle is adjusted well from the head it is easier reached and safer for this exercise.

Do not hastily attempt to get your feet on the pedals, but keep the feet raised so that the pedals will not strike them, then when one is upward and is turning forward rest the foot that happens to be on it gently, and follow it around; the other foot can now be placed on its pedal as soon as the first one has commenced to ascend.

Remember that the wheel will run further than you think before its momentum is lost, and that some power to move is imparted to it in sliding from the top to the saddle, and you have plenty of time to adjust yourself in the seat and put the feet on the pedals at the proper moment.

Be careful to keep the feet straight so that the heels do not get struck by the spokes. Remember to guide the wheel the same as you did while on the step, that is to turn it in the direction it seems to be falling. Do not turn suddenly, but gradually; a very slight turn will be all that is necessary.

You do not need to try and keep the machine upright by balancing or swaying the body; it is useless and laborious. Keep well

back in the seat and press on the pedal just enough to keep the wheel in motion, and do this only when the pedal is descending. In falling always be prepared to keep as far back as possible, as there is then less danger of getting the feet on the spokes, consequently less danger to the rider and machine.

The leg on the side that you fall on can always be extended sideways to catch you unless the machine is going rapidly, at which time a side fall rarely occurs. The neatest way to fall and which is really a dismount, is while extending the leg that you are falling on, raise the other leg over the handle and let it come down on the same side as the first; this is graceful and looks difficult. Such practice is desirable and induces in the rider the habit of lifting either or both legs instantly to alight safely on both feet after falling on the side or the front.

The easiest dismount is to use the pedal when it is down or coming up, as a step to alight from. After you are an expert rider you need not care what position the pedal is in, for the little weight you put on during the moment you rest on it, does not affect the machine. Be careful in doing this to keep well back, and do not look at the pedals.

There is another way of dismounting used in an emergency, that is to extend the legs and throw yourself back from the machine by a sudden pressure forward on the handles. You can then generally catch the machine by the backbone as you alight on the ground.

Be very careful about the use of the brake, for a sudden application of it, unless you are prepared by leaning backward, will throw you quickly over the handles. Most riders in localities where hills are not encountered, take off the brake lever, so that the danger of an accidental application is avoided.

DIRECTIONS FOR CEMENTING TIRES.

If your tire should become loose, it can be fixed readily by heating the rim, either by application of a gas flame, lamp or hot iron to the rim, causing the cement to melt and secure the rubber.

The rim and rubber should be first cleaned from dust and sand, and the rubber should be lifted out a little during the operation, to assure yourself that the cement is hot enough to unite with the rubber and there is enough cement to fill the space in the rim when the rubber is pressed down. The wheel can be used again as soon as it is cold.

IN TOURING it is well to provide yourself with some fine string to secure a loose place in the tire till it can be properly attended to.

Practical Hints on the Care of the Bicycle.

Keep all parts well tightened and the machine well oiled. Sperm is best; lard oil is good; any oil that is good for a sewing machine will be right for the bicycle. Do not keep it in a damp place, or the nickel work will be injured. Clean carefully after use and keep it free from dust.

The parts of a bicycle requiring oil are the surfaces that move upon or against each other, and in all properly constructed machines of every kind, some provision is made to admit and retain with more or less success the lubricating material.

Those parts in the ordinary bicycle needing oil are:

First, the axis of the rear wheel, which being near the ground is most exposed to dust, and turning three times as fast as the large wheel, should be oiled about three times as often. For this purpose a covered aperture will be found in the center of the steel part of the rear hub.

Next, the bearings of the front wheel. Those in the Challenge and Safety are oiled through the pillar lubricators on each side of the front fork, and in the Ideal, through apertures close to the hub, inside of the fork.

The pedals are best oiled by taking out the screw at the outer end and removing the pedal; the oil should be inserted in the pedal sleeve and on the pedal pin. The long fitting at the pedal centers and their capacity for holding oil, makes it unnecessary to oil it more than one-third as many times as the front wheel bearings.

The other points require very little oiling; they are the neck at the top and bottom fitting, oiled through the hole in the top of the center screw.

The spring clip also requires attention, a little being needed where the slipping occurs between the spring and clip.

Do not allow your friends to handle your spokes and snap them to test their tightness, as it is liable to strain them unnecessarily.

If any are broken in the hub so that they cannot be removed with pliers, the careful use of a *left-hand* drill, somewhat smaller than the wire, to drill them out will generally unscrew them.

TESTIMONIALS.

811 ARCH ST., PHILADELPHIA, March 3, 1884.

In regard to the "Ideal" would say, it is certainly well named, when we consider the *good quality* of the *machine* and the *moderate prices*. It certainly surpasses in style and finish any bicycle I have seen which is not high priced, and it is a surprise alike to dealer and customer, that such a *substantial, well made and highly finished machine* can be supplied at so low a price. It is a fortunate combination when both dealer and customer are satisfied, as is the case with the "Ideal."

Yours very truly,

H. B. HART.

1108 E ST., N. W., WASHINGTON, D. C., March 1, 1884.

Any one who will take the trouble to examine the "Ideal" bicycle will be *convinced* that it is *unexcelled* by any *machine* (for the price) *in the market*. It should be considered sufficient recommendation of it, when dealers adopt it for the purpose of teaching in schools.

Truly yours,

WM. C. SCRIBNER.

NEW YORK, April 15, 1884.

The "Ideal" takes very well. It is a neat wheel and deservedly popular; am selling a number of them.

Yours very truly,

ELLIOTT MASON,

Manager of the Pope Mfg. Co.'s branch store in New York.

114 WOODWARD AVE., DETROIT, MICH., April 18, 1884.

The two 50-inch Ideals received a few days ago are gone; are also out of 48, and we hope you can make us a shipment as follows:

* * * * *

The bicycles are beauties. We congratulate you on them, and bespeak for you a large demand.

Yours very truly,

T. B. RAYL & Co.

422 4TH AVE., LOUISVILLE, KY., Feb. 28, 1884.

It is with pleasure I recommend your "Ideal" bicycle; having sold a good many of them and every one has given entire satisfaction. I consider it the best wheel for the money in the market.

Respectfully yours,

HORACE BEDDO.

FOSTORIA, OHIO, April 21, 1884.

Received bicycles the 17th in good condition. Eight riders took a trip Sunday, and the 50 was with the first of the riders; am very much pleased with the wheel, and think it is as good as some wheels costing \$20 more, and for looks it is a finer looking wheel than some that cost \$125.

Yours very truly,

J. S. BROWN,

Sec. and Treas. of Fostoria Bicycle Touring Club.

MIDDLETOWN, N. Y., March 21, 1884.

Bicycle came all right. It is a *little beauty*. Don't see how you do so *much* for so *little* money. I could not expect a more complete machine for twice the money.

Yours very truly,

WM. CLEMSON,

Of the Wheeler, Madden & Clemson Mfg. Co.

GREENVILLE, S. C., May 9, 1884.

I am now riding one of your 50 "Ideal" bicycles, and think it is a *splendid bicycle* for the *money*.

Yours respectfully,

J. N. HERNDON,

With McBee & Briggs, Greenville, S. C.

The largest bicycle dealer in Canada says:

1424 ST. CATHARINE ST., MONTREAL, Aug. 9, 1884.

Your machines have given very great satisfaction; they run very nicely, and stand a lot of hard knocks.

A. T. LANE.

NEW ORLEANS, LA., Sept. 20, 1884.

You are at liberty to quote me as being much pleased with the "Ideal" bicycle, after having given it quite a trial. It is undoubtedly a superior machine for the price.

In appearance it compares favorably with the most expensive wheels. It is light, staunch, and easy running, being apparently well adapted to our somewhat various styles of roads.

Yours very truly,

WM. W. CRANE,

Captain of the New Orleans Bicycle Club.

PLEASANT VIEW, PA., Oct. 21, 1884.

DEAR SIR: I have used one of your 50-inch machines since July. I bought it from your agent in Hagerstown, Md., and it is just as good as bicycles costing a good deal more, in fact, I like it better; it is light and stands rough usage. Please send me another of your price lists.

FRED BENNETT,

Pleasant View, Juniata Co., Pa.

In ordering by wire, less words may be used, greater exactness obtained, and the instructions better understood by us, if our customers will use the following

TELEGRAPH CODE

If by
Express. If by
Freight.

We wish shipped at once—

52 inch American Challenge, standard finish.....	Nab...Nabob.
52 " " " all parts nickeled except wheels...	Net...Nettle.
52 " " " full nickeled.....	Nor...Normal.
54 " " " standard finish.....	Oar...Oarsman.
54 " " " all parts nickeled except wheels...	Oft...Often.
54 " " " full nickeled.....	Out...Outfit.
56 " " " standard finish.....	Pat...Patent.
56 " " " all parts nickeled except wheels...	Pen...Pencil.
56 " " " full nickeled.....	Pil...Pilgrim.
58 " " " standard finish.....	Rag...Raging.
58 " " " all parts nickeled except wheels...	Rod...Rodney.
58 " " " full nickeled.....	Reap...Reaper.
60 " " " standard finish.....	Set...Setter.
60 " " " all parts nickeled except wheels...	Sub...Subdue.
60 " " " full nickeled.....	Sin...Sinner.
42 inch American Safety, standard finish.....	Tar...Target.
42 " " " all parts nickeled except wheels.....	Team...Teamster.
42 " " " full nickeled.....	Tun...Tunnel.
44 " " " standard finish.....	Up...Upright.
44 " " " all parts nickeled except wheels.....	Urge...Urgency.
44 " " " full nickeled.....	Utter...Uttermost.
46 " " " standard finish.....	Van...Vanity.
46 " " " all parts nickeled except wheels.....	Vic...Victor.
46 " " " full nickeled.....	Voy...Voyage.
Ideal Bicycle Rack.....	War...Warrior.
" Wall Bracket, adjustable.....	Wed...Wedding.
With Ball Bearings to front wheel.....	Use...Useful.
" " " " rear wheel.....	Ump...Umpire.
" Ball Pedals.....	Ves...Vested.

We wish shipped at once—

If by	If by
Express.	Freight.

38 inch Ideal Bicycle, standard finish.....	<i>Act</i>	<i>Acting.</i>
38 " " " all parts nickeled except wheels.....	<i>Age</i>	<i>Agent.</i>
38 " " " full nickeled.....	<i>All</i>	<i>Alley.</i>
42 " " " standard finish.....	<i>Beg</i>	<i>Begin.</i>
42 " " " all parts nickeled except wheels.....	<i>Bid</i>	<i>Bidder.</i>
42 " " " full nickeled.....	<i>Box</i>	<i>Boxer.</i>
44 " " " standard finish.....	<i>Cab</i>	<i>Cabin.</i>
44 " " " all parts nickeled except wheels.....	<i>Com</i>	<i>Combat.</i>
44 " " " full nickeled.....	<i>Cot</i>	<i>Cotton.</i>
46 " " " standard finish.....	<i>Den</i>	<i>Denton.</i>
46 " " " all parts nickeled except wheels.....	<i>Dog</i>	<i>Dogged.</i>
46 " " " full nickeled.....	<i>Del</i>	<i>Deluge.</i>
48 " " " standard finish.....	<i>End</i>	<i>Ending.</i>
48 " " " all parts nickeled except wheels.....	<i>Ere</i>	<i>Erebus.</i>
48 " " " full nickeled.....	<i>Eve</i>	<i>Event.</i>
50 " " " standard finish.....	<i>Fan</i>	<i>Fanner.</i>
50 " " " all parts nickeled except wheels.....	<i>Fir</i>	<i>Firkin.</i>
50 " " " full nickeled.....	<i>Foe</i>	<i>Foeman.</i>
Ship at once of the flag staffs and clamp.....	<i>Staff</i>	<i>Staffer.</i>
" " " No. 1 bells.....	<i>Lad</i>	<i>Ladder.</i>
" " " No. 2 ".....	<i>Leg</i>	<i>Legend.</i>
" " " No. 3 ".....	<i>Lit</i>	<i>Little.</i>
" " " No. 4 ".....	<i>Lum</i>	<i>Lumber.</i>
" " " No. 5 ".....	<i>Low</i>	<i>Lower.</i>
" " 1 lb of cement.....	<i>Man</i>	<i>Manner.</i>
" " 5 lb of cement.....	<i>Mid</i>	<i>Middle.</i>
" " 10 lb of cement.....	<i>Mon</i>	<i>Monday</i>

OFFICE AND WORKS:
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